

CHARACTERISTICS AND CAPABILITIES
OF DUAL TRACK AUDIO-VISUAL UNIT

1. General Description

a. Most tape recorders allow recording on one edge of the tape and by reversing, recording on the other. This is single track recording and listening, even though the upper and lower edges of the track have been utilized.

b. A prototype unit of the Audio-Visual Device differs from standard machines in that the ~~two~~ edges of the track can be utilized (playback and record) simultaneously. This is accomplished by having two independent recorders housed in one unit. The advantages of two independent systems and examples of utilization are summarized in Attachment B.

c. In using the machine, questions can be put with a variety of subjects can be recorded on one track (master) by the instructor. The trainee can listen to the master track and reply spontaneously, with his answer being recorded on the second track. By putting apart headphones the trainee and the instructor can listen to the two tracks being played back, that is, to the question and answer. In addition, if desired, visual images can be projected (automatically) in conjunction with the question being asked. This is done by placing adhesive photoelectric strips directly on the tape at the place that the film strip is to move from frame to frame. By using multiple headsets, instruction can be given to a group of individuals simultaneously. There is the limitation, however, that only one person can record his answer at a time.

2. Characteristics and Capabilities

- a. Size - The entire unit is presently contained in an American styled leather luggage case measuring 22" x 22" x 12". The component and arrangement can easily be varied to fit other type cases. A more compact unit could be obtained by custom designing the carrying case, or dividing the equipment into two cases.
- b. Weight - Entire unit with all components and case weighs 40 pounds.
- c. Power Supply - A universal motor and rectifier are provided in the unit enabling the entire audio-visual device to operate from a 40-80 cycles per second, 115 volts, 100 watts, source, AC or DC.
- d. Storage - Basic recording unit, automatic film strip projector, five pairs of headphones, and microphone compose the unit. Space is provided, also, in this case for storage

Security Information

of 12 tapes, 8 film strips, extension cord and two copies of the operating and maintenance manual.

- e. Recording Time - 1 hour on a reel 5" in diameter.
- f. Tape Speed - 1-7/8 inches per second.
- g. Number of Channels - Two channel magnetic tape playback, single channel record with facilities to record on top or bottom channel simultaneously with playback. Metallic strips on tape synchronize the tape message with an automatic film strip transport.
- h. Basic Unit - Revere model T-500 with a second recording head and amplifier added. A junction box is provided to plug in five earphones from the single Revere revised binaural output. Split earpiece headphones are used, enabling the user to hear the output of each audio channel separately and simultaneously. The second amplifier is housed in the second unit. A volume control and switch is mounted near the take-up reel, for the second amplifier.
- i. Automatic Film Strip Projector - A Dukane projector is used. It is a 300 watt system without a blower. The film transport is advanced by means of a push button switch, or automatically by placing easily installed adhesive-backed metallic strips on the shiny side of the tape. The metallic strips complete the circuit when they pass across two contact posts installed on the Revere between the two reproduce heads, thus making film advance automatic and synchronous with the sound.
- j. Microphone - A Revere high impedance microphone is provided for recording.
- k. Frequency - $\pm$ - 3 d.b., 50-7500 cycles per second.
- l. Rewind - 10:1 ratio.
- m. Rapid Tape Transport - Rapid forward speed approximately ten times normal playing speed accomplished without disturbing or re-threading tape.
- n. Start/Stop - Instantaneous start and stop of the tape may be accomplished by using the standard Revere foot control.